

TITLE 8:
UNFIRED PRESSURE VESSEL SAFETY ORDERS
Chapter 4, Subchapter 1, Sections 451 and 527,
Scope and Application of Article 7

Liquefied Natural Gas

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**STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

Attachment No. 1

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PROPOSED STATE STANDARD,
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Amend Section 451 to read:

§ 451. Unfired Pressure Vessels Not Subject to These Safety Orders.

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(c) Natural gas vessels and installations and air brake tanks subject to the jurisdiction and inspection of the Public Utilities Commission, the Department of Transportation, or the Department of the California Highway Patrol, except as provided in Article 7 of these Orders.
NOTE: Authority cited: Section 142.3, Labor Code. Reference: Sections 142.3 and 7624, Labor Code; and Section 13241, Health and Safety Code.

Amend Article 7 to read:

Article 7. Compressed and Liquefied Natural Gas System*

*For Appendix A, refer to end of Subchapter 1.

The provisions of Article 7 apply to the storage, dispensing and use of natural gas as a motor fuel, ~~except in vehicles that are licensed to travel on highways, for which the standards of the California Highway Patrol apply~~ but do not apply to the storage or use of natural gas on public roads and highways.

Amend Section 527 to read:

§ 527. Control of Products in Tanks and Cylinders.

(a) General. Natural gas contaminants, such as hydrogen sulfide and water shall be so minimized as to prevent any adverse effects on storage and utilization equipment.

(b) Compressed Natural Gas.

No natural gas shall be delivered into any vessel or system covered by these Safety Orders unless odorized. The gas shall have a distinctive odor of sufficient intensity so that the presence of the gas may be detected down to the concentration in air of not over ~~4/5~~ 20 percent of the lower explosive limit of flammability. Odorants in the concentrations used shall be:

- (1) Harmless to humans.
- (2) Non-toxic.
- (3) Non-corrosive to steel, iron, brass or copper.
- (4) Non-soluble in water to an extent greater than 2.5 parts by weight of odorant to 100 parts by weight of water.

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(5) Be compatible with natural gas at the pressures and temperatures to be encountered in storage, transfer and service.

(c) Liquefied Natural Gas.

The delivery of LNG into any vessel or system covered by these Orders shall be subject to monitoring by a methane gas detection system, as follows:

(1) Each methane gas detection system required by this section shall provide a warning when an airborne methane gas concentration exceeding 20 percent of the lower explosive limit is detected. The warning shall be plainly audible and visible to those within the zone of potential exposure to fire or explosion of the vessel, system, or delivery operation.

(2) Where LNG is delivered into a vessel or system that is part of a motor vehicle, the methane gas detection system shall function continuously during the course of the delivery operation so that methane leaks resulting in an airborne concentration exceeding 20 percent of the lower explosive limit will be detected in the immediate vicinity of the operation.

(3) Where LNG is delivered to any other vessel or system covered by these Orders, the methane gas detection system shall function continuously during the course of the delivery operation so that methane gas leaks resulting in an airborne concentration exceeding 20 percent of the lower explosive limit will be detected in the immediate vicinity of the operation and the entire vessel or system into which the LNG is delivered. After delivery is completed, the methane gas detection system shall be operated continuously in the immediate vicinity of the entire vessel or system into which the LNG was delivered for as long as the vessel or system contains LNG.

(4) Nothing in this section is intended to supercede or alter the applicable requirements of 13 CCR Section 935.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.